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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/802,704	03/17/2004	Che-Hsiung Hsu	UC0362USNA	4816
23906 7590 08/22/2007 E I DU PONT DE NEMOURS AND COMPANY LEGAL PATENT RECORDS CENTER BARLEY MILL PLAZA 25/1128 4417 LANCASTER PIKE WILMINGTON, DE 19805			EXAMINER KOPEC, MARK T	
			ART UNIT 1751	PAPER NUMBER
			MAIL DATE 08/22/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/802,704

Applicant(s)

HSU ET AL.

Examiner

Mark Kopec

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 August 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2 and 4-33 is/are pending in the application.
- 4a) Of the above claim(s) 9-28 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 4-8, 29-33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 08/02/07 has been entered. Claims 1, 2, 4-34 are currently pending with claims 9-28 withdrawn from consideration.

As stated in the Rejection mailed 01/23/06, the instant claims are accorded a priority date of 03/17/04 (the filing date of the instant application).

The numbering of claims is not in accordance with 37 CFR 1.126 which requires the original numbering of the claims to be preserved throughout the prosecution. When claims are canceled, the remaining claims must not be renumbered. When new claims are presented, they must be numbered consecutively beginning with the number next following the highest numbered claims previously presented (whether entered or not).

Specifically, no claim "31" has been presented.

Misnumbered claims 32-34 been renumbered **31-33**.

The prior art rejection over EP 593111 is withdrawn in view of applicant's amendments and remarks.

The previous 112 rejection(s) are withdrawn in view of applicant's amendments and remarks.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim 33 is under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Specifically, there is no written description for "...X may be -CH₃, -CH₂CH₃" (line 4). At page 10 of the instant specification, applicant describes these substituents for N(R1-4), but not for "X".

Also, applicant should amend the instant claim language "...M may be" to proper Markush language ---selected from the group consisting of--.

Claims 1, 2, 4-8 and 29-33 are rejected under 35 U.S.C. 102(b) as anticipated by, or in the alternative, under 35

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U.S.C. 103(a) as obvious over Pickup et al (Electronically conducting cation-exchange polymer...).

These rejections are maintained for the reasons set forth in the Rejection mailed 01/23/06 (pages 7-9).

Applicant's remarks regarding these rejections are noted. Specifically, applicant contends that Pickup does not disclose or suggest the instant limitation(s) regarding "aqueous dispersion capable of forming a film".

The examiner respectfully disagrees. A careful reading of Pickup discloses dispersion in acetonitrile/water solution (Table 2), and specifies, "...appears to be gel-like with no discrete particles" (page 23). The examiner submits that such clearly meets the instant description of "dispersion" at pages 6-7 of the instant specification. Specifically, the specification defines the claims as requiring minute particles suspended in liquid (aqueous) medium. Pickup's description of "no discrete particles" clearly implies submicron particles dispersed in the liquid medium. Additionally, note that both the instant materials and the materials disclosed in the reference are made by the same/substantially the same methods (i.e. chemical polymerization of PEDOT monomer/NAFION dopant in solution).

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Note the following new grounds of rejection.

Claims 1, 2, 4-8 and 29-33 are rejected under 35 U.S.C. 102(e) as anticipated by Sotzing (2004/0010115).

Sotzing discloses polymers and copolymers comprising repeating units of thieno[3,4-b]thiophene. Water-borne dispersions of such polymers and copolymers can be cast by conventional methods to provide uniform, thin films which possess utility in numerous electroactive applications including electrochromic displays, optically transparent electrodes and antistatic coatings. The compositions of this invention can be doped with conventional p-dopants or n-dopants. The invention also presents an aqueous process for preparing such compositions of matter (Abstract). The reference specifically discloses PEDOT co-monomers (para 0014-0016), NAFION dopant (0021), and water/co-solvent mixtures (0050, 0064-0066). The instant claim language "wherein said polythiophene comprises the Formula I(a) or Formula I(b)" encompasses the PTT/PEDOT copolymer disclosed in Sotzing.

The reference is anticipatory.

Claims 1, 2, 4-8 and 29-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohtani et al (4,869,979).

Ohtani discloses conducting organic polymer battery is disclosed, which comprises a cathode comprising a conducting

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organic polymer doped with a polymer anion having a number of anionic groups in the molecule thereof, an anode comprising a metal having a redox potential lower than that of the conducting organic polymer, and an electrolyte solution or a solid electrolyte as an ion conductive phase. In the battery, the ion concentration in an electrolyte solution does not substantially change during charging and discharging (Abstract). Of the above-described conducting organic polymers, polythiophene (substituted at the 3 and/or 4 position), polyaniline, polyalkylanilines, poly-N-methylpyrrole, polypyrrole, poly(p-phenylene) and polyacetylene are preferably used (Col 3, lines 20-24; claim 8). The reference additionally teaches NAFION dopant (Col 3, lines 30-35), and polymerization in water/solvent mixtures (Col 4, lines 20-25).

The reference differs from the instant claims in failing to specify the claimed PEDOT monomer formula (Ia or Ib).

The examiner respectfully submits that PEDOT monomer/polymer are notoriously well known 3,4 substituted polythiophenes in the conductive coating art as. The selection of such would have been obvious to the skilled artisan. All the claimed elements were known in the prior art and the skilled artisan could have combined the elements by known methods with

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no change in their respective functions, and the combination would have yielded predictable results.

Claims 1, 2, 4-8 and 29-33 are rejected under 35 U.S.C. 102(e) as being anticipated by Hsu et al (2004/0102577).

U.S. 2004/0102577 is the PG pub of CIP parent application 10/669,494 (filed 09/24/03). As stated above, the instant claims are accorded a priority date of 03/17/04 (the filing date of the instant application). While 2004/0102577 discloses a species of the instantly claimed polythiophene compound(s), the disclosure does not support all of the claimed embodiments.

Hsu discloses poly(3,4-ethylenedioxythiophene) doped with colloid-forming NAFION dopant (0030, 0038). The reference additionally discloses additional claimed ingredients (0064), and water/solvent mixtures (0053). The reference specifically or inherently meets each of the claimed limitations.

The reference is anticipatory.

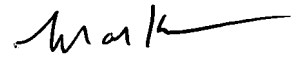
In view of the foregoing, the above claims have failed to patentably distinguish over the applied art.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark Kopec whose telephone number is (571) 272-1319. The examiner

can normally be reached on Monday - Friday from 9:30 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Douglas McGinty can be reached on (571) 272-1029. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


/Mark Kopec/
Primary Examiner
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MK
August 20, 2007